

Appln. No. 09/825,910
Amdt. dated Mar.24, 2004
Reply to Office communication of Sep. 24, 2002
Docket 14XZ00098

Amendment to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 (previously presented): A radiological imaging device, comprising:

- a. means for emission of an X-ray beam;
- b. means for receiving the X-ray beam after the beam has crossed an object to be studied; and
- c. means for calculation for controlling the means for emission and for processing data from the means for receiving;
- d. wherein the object is placed between the means for receiving and a means for compression;
- e. the means for compression being removably fixed on the device; and
- f. the means for calculation including means for optimizing image quality over a particular area defined by the compression element.

2 (previously presented): The device according to claim 1, comprising:
means for recognition of the means for compression.

3 (previously presented): The device according to claim 2, wherein the means for recognition includes at least one detection element and an adapter connected to an output of the detection element for transfer of data from the detection element to a communication bus associated with the device and the means for calculation for processing data from the means for recognition.

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4 (previously presented): A radiological imaging device comprising;

- a. means for emission of an X-ray beam;
- b. means for receiving the X-ray beam after the beam has crossed an object to be studied;
- c. an element having a given X-ray absorption removably fixed on the device; and
- d. means for calculation for controlling the means for emission and for processing data from the means for receiving, the means for calculation including means for optimizing image quality over a particular area defined by the element.

5 (currently amended): The device according to claim 4, wherein the element includes means for coding for cooperating with the a means for recognition of the element.

6 (previously presented): A radiological imaging method, in which a compression element for an object is mounted on a radiological device having means for emission of an X-ray beam and means for receiving the X-ray beam after the beam has crossed the object to be studied and means for calculation for controlling the means for emission and for processing data from the means for receiving, comprising the steps for:

- a. placing the object between the means for receiving and the compression element;
- b. taking a first radiological image of the object; and
- c. processing the first radiological image in order to optimize image quality over a particular area defined by the compression element.

7 (currently amended): The method according to claim 6, in which the particular are area is defined by the a surface of the compression element in contact with the object to be studied.

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8 (currently amended) The method according to claim 6 comprising the steps for:

- a. establishing a histogram of the image (real histogram);
- b. establishing a mathematical model of the an image chain;
- c. determining parameters of the object by calibration;
- d. determining parameters for acquisition of the image;
- e. determining parameters of the means for receiving;
- f. determining parameters for positioning the device;
- g. using steps a to f to determine two gray level values, min_gray and max_gray, taken in the particular area and delimiting a useful gray area;
- h. eliminating the part below min_gray and the part above max_gray in the real histogram in order to obtain a limited histogram;
- i. applying a set of rules to the limited histogram in order to determine a WL brightness level; and
- j. obtaining a WW contrast from the WL brightness level and possibly from one or more parameters chosen by a user or fixed a priori.

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9 (currently amended): The method according to claim 7 comprising the steps for:

- a. establishing a histogram of the image (real histogram);
- b. establishing a mathematical model of the ~~the~~ an image chain;
- c. determining parameters of the object by calibration;
- d. determining parameters for acquisition of the image;
- e. determining parameters of the means for receiving;
- f. determining parameters for positioning the device;
- g. using steps a to f to determine two gray level values, min_gray and max_gray, taken in the particular area and delimiting a useful gray area;
- h. eliminating the part below min_gray and the part above max_gray in the real histogram in order to obtain a limited histogram;
- i. applying a set of rules to the limited histogram in order to determine a WL brightness level; and
- j. obtaining a WW contrast from the WL brightness level and possibly from one or more parameters chosen by a user or fixed a priori.

10 (currently amended): A radiological imaging process, in which an element having a given X-ray absorption is placed ~~on the~~ in a path of an X-ray beam of a radiological device, the radiological device comprising means for emission of the X-ray beam and means for receiving the X-ray beam after the beam has crossed an object to be studied and means for calculation for controlling the means for emission and for processing data from the means for receiving, comprising the steps for:

- a. placing the object ~~on~~ in the path of the X-ray beam;
- b. taking a first radiological image of the object and;
- c. processing the first radiological image in order to optimize image quality on a particular area defined by the element.

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11-16 (canceled).

17 (currently amended): An article of manufacture comprising:

- a. a computer useable medium having computer readable program code means embodied therein for taking a first radiological image by a device having means for emission of an X-ray beam and means for receiving the X-ray beam after the beam has crossed an object to be studied, wherein the object being is disposed between the means for emission and a means compression, and means for calculation for controlling the means for emission and means for processing data from the means for receiving; and
- b. the computer readable program code means processing the first radiological image for optimizing the image quality over a particular area defined by the means for compression.

18 (previously presented): The article of claim 17 wherein the computer readable program code means comprises program code for causing a coder for the means for compression to cooperate with means for recognition of the means for compression.

19 (currently amended): The article of claim 17 wherein the computer readable program code means comprises steps for:

- a. forming a real histogram of the image;
- b. establishing a mathematical model of the an image chain;
- c. determining parameters of the object by calculation;
- d. determining parameters of the for an acquisition of the image;
- e. determining parameters of the means for receiving;
- f. determining parameters for positioning of the device;
- g. determining two gray levels values, min_gray and max_gray, taken in a particular area and delimiting a gray area;

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- h. eliminating a part below min_gray and a part above max_gray in the histogram in order to obtain a limited histogram;
- i. applying a set of rules to the limited histogram in order to determine a WL brightness level; and
- j. obtaining a WW contrast from the WL brightness level and possible from one or more parameters chosen by the user or fixed a priori.

20 (previously presented): The article of claim 17 wherein the article is a support capable of being read by a reading device for the computer readable program code means embodied therein.

21 (currently amended): A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for taking a radiological image of an object, the method steps comprising:

- a. forming a real histogram of the image;
- b. establishing a mathematical model of the an image chain;
- c. determining parameters of the object by calculation;
- d. determining parameters for an of the acquisition of the image;
- e. determining parameters of the a means for receiving;
- f. determining parameters for positioning of the device;
- g. determining two gray levels values, min_gray and max_gray, taken in a particular area and delimiting a gray area;
- h. eliminating a part below min_gray and a part above max_gray in the histogram in order to obtain a limited histogram;
- i. applying a set of rules to the limited histogram in order to determine a WL brightness level; and
- j. obtaining a WW contrast from the WL brightness level and possible from one or more parameters chosen by the user or fixed a priori.